# YIN (IRENE) LIN

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## EDUCATION

**Shanghai Jiao Tong University, China (SJTU)** Sep. 2015 – Jun. 2019 (Expected)
*B.S. in Computer Science (CS)* GPA: **3.84**/4.3, (**89.92**/100)
***Core Courses:*** C++ Programming (96) , Project Workshop of Operating Systems (98) , Computer Networks (95) , Operating Systems (96) , Information Theory and Coding Technology (94) , Computer System Architecture (94) , Advanced Data Management (90) , Machine Learning (96) , Artifical Intelligence (94)

**University of Waterloo, Canada** Jul. 2018 – Oct. 2018
*Research Intern* in Software Architecture Group, School of Computer Science (Advisor: Prof. Meiyappan Nagappan.)
***Graduate Seminar:*** Graph Data Management ( Prof. Semih Salihoglu)

GRE:157+168+4.0, TOEFL: 108 (R:28, L:30, S:22, W:28)

## RESEARCH INTERESTS

Database, Distributed Systems, Computer Architecture

## PUBLICATIONS

[1] **Yin Lin**, Xinyi Chen, Xiaofeng Gao, Bin Yao, Guihai Chen, $R^2$-Tree: An Efficient Indexing Scheme for Data Center Network, in *International Conference on Database and Expert Systems Applications (DEXA), 2018* (Oral Presentation).

[2] **Yin Lin**, Xinyi Chen and Paulo Weng, MetisRL: A Reinforcement Learning Approach for Dynamic Routing in Data Center Networks, submitted to *IEEE International Conference on Computer Communications(INFOCOM), 2019*.

[3] Jiaping Gui, **Yin Lin**, Meiyappan Nagappan, William G.J. Halfond, Understanding the Relationship Between Mobile Ad Usage and App Ratings in Android Apps, submitted to *ACM SIGSOFT Symposium on the Foundation of Software Engineering/ European Software Engineering Conference (FSE/ESEC), 2019*.

## RESEARCH EXPERIENCES

**R2-Tree: Scalable Indexing Schemes for High Dimensional Data** Dec. 2016 – Feb. 2018
*Shanghai Jiao Tong University Advisor: Prof. Xiaofeng Gao*

- Proposed a scalable indexing scheme called R2-Tree for high dimensional data in data centers.
- Employed the two-layer indexing framework to maintain a global index layer above the structured overlay.
- Used R-Tree to support both point, range query and used bloom filter to reduce the false positive.
- Implemented the indexing scheme to upto 64 instances and validated the efficiency of the global indexing layer when migrated to three different datacenter topologies.

**Using Machine Learning to Reduce Index Reconstructions on HUAWEI Data Centers** Aug. 2018 - present
*Shanghai Jiao Tong University Advisor: Prof. Xiaofeng Gao, Jun Zhao (HUAWEI engineer)*

- Used machine learning method to predict and correct erroneous statistics in the storage system for Industrial & Commercial Bank of China provided by HUAWEI.
- Automatically reconstructed the index for the database and reduce the human effort in maintaining the storage system.

**MertisRL: Dynamic Data Center Flow Scheduling Scheme** Dec. 2017 – Jun. 2018
*Shanghai Jiao Tong University Advisor: Prof. Xiaofeng Gao*

- Used Reinforcement Learning (RL) algorithm to predict future data flows before they occur and dynaically compute the optimal data flow scheduling scheme accordingly.

- Utilized Mininet to simulate SDN centralized control to implement the flow scheduling scheme to the Fat-tree data center topology.

**Mining Software Repositories** Jun. 2018 – Oct.2018
*University of Waterloo Advisor: Prof. Meiyappan Nagappan*

- Conducted an A/B test to investigate how different mobile ads usage pattern could affect the user's feeling of mobile apps. This test provides guidance for users of Google Mobile Ads SDK.
- Investigated the usage of tools proposed in the demo and research track of ICSE 2014-2018. Defined a criterion to classify the tools in the papers by their purpose, programming language, availability and so on, then built a website to make the tools more easily accessible for software developers.

## SELECTED AWARDS

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|---|---|
| Meritorious Winner Prise, Mathematical Contest in Modeling *twice, top 10% worldwide* | 2017,2018 |
| Chun Tsung Scholar from Shanghai Jiao Tong University *60/˜2400, top 2% in SJTU* | 2017 |
| Yitu Scholarship *4/139 top 3% in CS department* | 2017 |
| Huawei Scholarship *7/139, top 6% in CS department* | 2017 |
| Academic Scholarship from Shanghai Jiao Tong University *top 10% in SJTU* | 2017 |
| Shanghai Jiao Tong Univerisity Merit Student *twice* | 2017,2018 |
| Cyrus Tang Scholarship *for outstanding volunteer work* | 2017 |

## TECHNICAL SKILLS

Programming: C/C++, Java, Python, Bash, HTML/CSS/JS, SQL

## ACADEMIC SERVICES

The 11th International Conference on Combinatorial Optimization & Applications (COCOA), Shanghai, China,
*Organization Staff and Emcee of Conference Banquet* Dec. 2017

## TEACHING EXPERIENCES

CS499, Mathematical Foundations of Computer Science
*Teaching Assistant.* *Instructor: Prof. Dominik Scheder* Spring 2018